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and

of the electrical/magnetic field force lines, can be implemented by using any suitable known means. For example, a metallic surface which presents an equipotential conductive screen can be used. The sensor 50 is provided with a receiving-emitting antenna 56 for communicating with both acoustic channels 52 and 54 via their buses.

IN THE CLAIMS:

Please replace claims 1, 7, 11 and 13 as follows:

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1. (Amended) A sensor for use in a device for non-contact detection of an external field by positioning the sensor at a spot where the external field is to be detected, the sensor comprising a delay line, which is to be exposed contactlessly to action of the external field and comprises:

a transducer arrangement that is provided on a substrate made of a material capable of transporting therethrough a wave sensitive to said external field, and defines a wave channel for the wave propagation through the substrate exposed to the external field so as to be directly affected by the external field, the transducer arrangement being capable of being actuated by an interrogation signal to generate the wave propagating through the wave channel and capable of converting the wave into an output response signal, said external field affecting a change in a velocity of the wave propagation through the substrate, said output response signal being thereby informative of said external field.

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7. (Amended) The sensor according to Claim 1, also comprising an additional delay line formed by an additional transducer arrangement defining an additional wave channel, wherein said additional wave channel is screened from said external field and has a propagation length different from that of the additional wave channel, said output response signal being a vector sum of output signals of the two wave channels.

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and

11. (Amended) A sensor for use in a device for non-contact detection of an external field in the vicinity of an electric wire, the sensor comprising:

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Cnd*

a substrate carrying a delay line formed by a transducer arrangement on the substrate to define a wave channel for the wave propagation through the substrate; and a field transformer operable to concentrate the external field of a given voltage to thereby produce an increased intensity of the field within the delay line exposed to an increased intensity field in a known proportion, the increased intensity field directly affecting a velocity of the wave propagating within the delay line; wherein the transducer arrangement is capable of being actuated by an interrogation signal to generate said wave propagating through the wave channel and capable of converting the wave into an output response signal, said wave channel being exposed contactlessly to action of the increased intensity field created by said field transformer and proportional to the external field to be measured, which effects a change in the velocity of the wave propagation through the substrate, said output response signal produced by the passive unit being thereby informative of said external field.

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13. (Amended) A device for non-contact detection of an external field,

comprising:

active and passive units, wherein the passive unit is to be positioned at a spot where the external field is to be detected, and the active unit is operable to emit an interrogation signal to be received at the passive unit, receive an output response signal coming from the passive unit, and process said output response signal for determining and indicating the external field, the passive unit comprising:

a substrate to be exposed to the external field so as to be directly affected by the external field, the substrate being made of a material capable of transporting therethrough a wave sensitive to said external field; and

a delay line provided on said substrate to define a wave channel for the wave propagation through the substrate exposed to the external field, the delay line comprising a transducer arrangement capable of being actuated by said interrogation signal to generate said wave propagating through the wave channel and capable of converting the

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wave into said output response signal, said wave channel being exposed contactlessly to action of the external field, which effects a change in a velocity of the wave propagation, said output response signal produced by the passive unit being thereby informative of said external field.

Please add claims 38-40 as follows:

--38. (Added) A sensor for use in a device for non-contact detection of an external field by positioning the sensor at a spot where the external field is to be detected, the sensor comprising:

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a delay line, which is to be exposed contactlessly to action of the external field, said delay being formed by a transducer arrangement that is provided on a substrate made of a material capable of transporting therethrough a wave sensitive to said external field, and that defines a wave channel for the wave propagation through the substrate, the transducer arrangement being capable of being actuated by an interrogation signal to generate said wave propagating through the wave channel and capable of converting the wave into an output response signal, said external field directly affecting a change in a velocity of the wave propagation, said output response signal being thereby informative of said external field; and

an additional delay line formed by an additional transducer arrangement defining an additional wave channel, wherein said additional wave channel is screened from the external field, and has a propagation length different from that of the other wave channel, said output response signal being a vector sum of output signals of the two wave channels.--

--39. (Added) A sensor for use in a device for non-contact detection of an external field by positioning the sensor at a spot where the external field is to be detected, the sensor comprising:

a delay line, which is to be exposed contactlessly to action of the external field and is formed by a transducer arrangement that is provided on a substrate made of a material capable of transporting therethrough a wave sensitive to said external field, and defines a wave channel for

the wave propagation through the substrate, the transducer arrangement being capable of being actuated by an interrogation signal to generate said wave propagating through the wave channel and capable of converting the wave into an output response signal, said external field affecting a change in a velocity of the wave propagation, said output response signal being thereby informative of said external field; and

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a field transformer operable to increase intensity of a field directly affecting the velocity of the wave propagation within the channel, as compared to the external field intensity, according to a known proportion, said field transformer being composed of two capacitors of different values of a capacity and a distance between the capacitor plates, such that the capacitor of a smaller capacity has a smaller distance between its plates, as compared to the other capacitor, the two capacitors being connected in parallel and being mounted at said spot where the external field is to be detected, the capacitor of the smaller capacity enclosing said delay line in a dielectric space between its place, the inner field of said capacitor of the smaller capacity affecting the velocity of the wave propagation through the channel.--

--40. (Added) A sensor for use in a device for non-contact detection of an external field by positioning the sensor at a spot where the external field is to be detected, the sensor comprising:

a delay line, which is to be exposed contactlessly to action of the external field and is formed by a transducer arrangement that is provided on a substrate made of a material capable of transporting therethrough a wave sensitive to said external field, and defines a wave channel for the wave propagation through the substrate, the transducer arrangement being capable of being actuated by an interrogation signal to generate said wave propagating through the wave channel and capable of converting the wave into an output response signal, said external field affecting a change in a velocity of the wave propagation, said output response signal being thereby informative of said external field; and